Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-14. (canceled)

15. (currently amended) A discharge rate and pressure control valve comprising:

a valve body having an inner bore generally defined by a bore axis, a valve inlet, and a valve outlet;

a spool member at least partially interposed within the inner bore and moveable therein generally along the bore axis;

a biasing member **having an end associated with the spool member** for biasing the spool member within the inner bore;

a force exerting portion for axially moving the spool member within the inner bore; and

a flap device **associated with another end of the biasing member opposite the spool member and axially spaced apart from the spool member , the flap device** including a flap inlet defined by **[[a]] an** inlet flap outer conduit and an inlet flap inner conduit,

wherein the biasing member, in a first valve configuration, permits the flap device to open when pressure within the inlet flap outer conduit reaches a first pressure, and the biasing member, in a second valve configuration, prevents the flap device from opening when pressure within the inlet flap outer conduit reaches a second pressure,

wherein the spool member, in a third valve configuration, directs the flow of a fluid from the valve inlet to the valve outlet when a bias force imposed by the biasing member is sufficient to prevent the flap device from opening after pressure within the inlet flap outer conduit has reached an operating pressure.

16. (previously presented) The valve of claim 15, wherein the flap inlet is generally defined by a flap axis, and the flap axis is generally co-axial with the bore axis.

17. (previously presented) The valve of claim 15, wherein the force exerting portion includes an electromagnet.

18. (previously presented) The valve of claim 17, wherein the electromagnet current is about 0 amps when the valve is in the first valve configuration.

19. (previously presented) The valve of claim 17, wherein the electromagnet current is between about 0 amps and a threshold value when the valve is in the second valve configuration.

20. (previously presented) The valve of claim 15, wherein axial movement of the spool within the inner bore selectively controls the discharge rate of a fluid between the inlet and the outlet.

21. (previously presented) The valve of claim 20, wherein at least a portion of the flap device is in a first position when the valve is in the first valve configuration, the at least a portion

of the flap device is in a second position when the valve is in the second valve configuration, and axial movement of the spool within the inner bore to control the discharge rate of a fluid between the inlet and the outlet is only performed when the at least a portion of the flap device is in the second position.

22. (previously presented) The valve of claim 15, wherein the inlet flap inner conduit is in fluid communication with the valve inlet within the inner bore of the valve body.

23. (previously presented) The valve of claim 15, wherein the flap device includes a seat surrounding a flap orifice that defines a boundary between the inlet flap outer conduit and the inlet flap inner conduit, and a ball that selectively contacts the seat to prevent the movement of fluids through the seat.

24. (previously presented) The valve of claim 23, wherein the flap device further includes a sleeve at least partially interposed between the biasing member and the ball, wherein the sleeve includes a ball contacting portion and a cylindrical housing having a diameter that narrows inwards to fix an end of the biasing member to the sleeve.

25-27. (cancelled)

28. (currently amended) A delivery system for a fluid which may be used to attain a desired pressure and discharge rate of the fluid, the system comprising:

a control valve having:

a valve body having an inner bore generally defined by a bore axis, a valve inlet, and a valve outlet;

a spool member at least partially interposed within the inner bore and moveable therein generally along the bore axis;

a biasing member **having an end associated with the spool member** for biasing the spool member within the inner bore;

a force exerting portion for axially moving the spool member within the inner bore; and

a flap device **associated with another end of the biasing member opposite the spool member and axially spaced apart from the spool member, the flap device** including a flap inlet defined by **[[a]] an** inlet flap outer conduit and an inlet flap inner conduit,

wherein the biasing member, in a first valve configuration, permits the flap device to open when pressure within the inlet flap outer conduit reaches a first pressure, and the biasing member, in a second valve configuration, prevents the flap device from opening when pressure within the inlet flap outer conduit reaches a second pressure,

wherein the spool member, in a third valve configuration, directs the flow of a fluid from the valve inlet to the valve outlet when a bias force imposed by the biasing member is sufficient to prevent the flap device from opening after pressure within the inlet flap outer conduit has reached an operating pressure; and

a fluid pump having a pump inlet and a pump outlet, wherein the pump inlet is in fluid communication with the valve outlet.

29. (previously presented) The delivery system of claim 28, further comprising a pressure sensor for detecting the pressure of the fluid within a portion of the delivery system downstream of the pump.

30. (previously presented) The delivery system of claim 29, further comprising a control unit, wherein the control unit supplies power to the force exerting portion in response to a preselected pressure detected by the pressure sensor.

31. (previously presented) The delivery system of claim 28, wherein the force exerting portion includes an electromagnet.

32. (previously presented) The delivery system of claim 31, further comprising a control unit, wherein the control unit supplies current to the electromagnet to reconfigure the valve from the first valve configuration to the second valve configuration.

33. (previously presented) The delivery system of claim 28, wherein the pump outlet is in direct fluid communication with the inlet flap inner conduit such that the flap device may regulate the pressure output of the pump within a portion of the delivery system.

34. (previously presented) The delivery system of claim 28, wherein the flap device selectively permits movement of the fluid within the inner bore.

35. (currently amended) A discharge rate and pressure control valve as set forth in claim 15, wherein the first pressure is about 20 to 30 bar**, and the force exerting portion is an electromagnet that receives 0 amps when the biasing member is in the first valve configuration**.

36. (previously presented) A discharge rate and pressure control valve as set forth in claim 15, wherein the second pressure is the operating pressure.

37. (previously presented) A discharge rate and pressure control valve as set forth in claim 15, wherein the second pressure is an engine idle pressure.

38. (previously presented) A discharge rate and pressure control valve as set forth in claim 37, wherein the engine idle pressure is about 70 bar.

39. (currently amended) A delivery system as set forth in claim 28, wherein the first pressure is about 20 to 30 bar**, and the force exerting portion is an electromagnet that receives 0 amps when the biasing member is in the first valve configuration**.

40. (previously presented) A delivery system as set forth in claim 28, wherein the second pressure is the operating pressure.

41. (previously presented) A delivery system as set forth in claim 28, wherein the second pressure is an engine idle pressure.

42. (previously presented) A delivery system as set forth in claim 41, wherein the engine idle pressure is about 70 bar.

43. (currently amended) A flow and pressure control valve comprising:

a valve body having a bore, and a flow valve inlet and outlet communicable with the bore;

a flow valve disposed in the bore of the valve body to control communication between the flow valve inlet and the flow valve outlet of the valve body;

a pressure valve inlet communicable with the flow valve inlet of the valve body;

a pressure valve **axially spaced apart from the flow valve and** disposed in the bore to control communication between the pressure valve inlet and the flow valve inlet;

a biasing member ~~**interposed between the flow and pressure valves**~~ **having one end associated with the flow valve and another end associated with the pressure valve** to bias the pressure valve in a direction toward a pressure valve closed position and to bias the flow valve in an opposite direction toward a flow valve closed position;

a pressure valve seat member coupled to the valve body in an axially adjustable manner to adjust a biasing force imposed by the biasing member; and

a force exerting portion to move the flow valve.

44. (previously presented) A flow and pressure control valve as set forth in claim 43, wherein the pressure valve seat member is threaded to the valve body.

45. (previously presented) A flow and pressure control valve as set forth in claim 43, wherein the force exerting portion is operable to force the flow valve to move and to increase the force applied to the pressure valve by the biasing member, but is not operable to move the flow valve to such an extent that the flow valve inlet is communicated to the flow valve outlet until the force applied to the pressure valve by the biasing member is sufficient to keep the pressure valve closed when pressure at the pressure valve inlet has reached an operating pressure.

46. (currently amended) A flow and pressure control valve comprising:

a valve body having a bore, and a flow valve inlet and outlet communicable with the bore;

a flow valve disposed in the bore of the valve body to control communication between the flow valve inlet and the flow valve outlet of the valve body;

a pressure valve inlet communicable with the bore of the valve body;

a pressure valve **axially spaced apart from the flow valve** to control communication between the pressure valve inlet and the bore of the valve body;

a biasing member **having an end associated with the flow valve and another end associated with the pressure valve, the biasing member** tending to force the pressure valve to close the pressure valve inlet; and

a force exerting portion operable to force the flow valve to move and to increase the force applied to the pressure valve by the biasing member, but not operable to move the flow

valve to such an extent that the flow valve inlet is communicated to the flow valve outlet until the force applied to the pressure valve by the biasing member is sufficient to keep the pressure valve closed when pressure at the pressure valve inlet has reached an operating pressure.

47. (previously presented) A flow and pressure control valve as set forth in claim 46, wherein the pressure valve is movable against the bias force imposed by the biasing member to open the pressure valve inlet, when pressure at the pressure valve inlet reaches a first pressure and when current applied to the force exerting portion is about zero.

48. (previously presented) A flow and pressure control valve as set forth in claim 47, wherein the flow valve is movable to increase the bias force imposed against the pressure valve to close the pressure valve inlet, when pressure at the pressure valve inlet reaches a second pressure and when current applied to the force exerting portion reaches a first value.

49. (previously presented) A flow and pressure control valve as set forth in claim 48, wherein the flow valve is further movable to further increase the bias force imposed against the pressure valve to close the pressure valve inlet, when pressure at the pressure valve inlet reaches an operating pressure greater than the second pressure and when current applied to the force exerting portion reaches a second value greater than the first value.

50. (previously presented) A flow and pressure control valve as set forth in claim 49, wherein the flow valve is further movable to communicate the flow valve inlet with the flow

valve outlet, after pressure at the pressure valve inlet has reached the operating pressure and when current applied to the force exerting portion is greater than the second value.

51. (new) A discharge rate and pressure control valve comprising:

a valve body having an inner bore generally defined by a bore axis, a valve inlet, and a valve outlet;

a spool member at least partially interposed within the inner bore and moveable therein generally along the bore axis;

a biasing member for biasing the spool member within the inner bore;

a force exerting portion for axially moving the spool member within the inner bore; and

a flap device including a flap inlet defined by an inlet flap outer conduit and an inlet flap inner conduit,

wherein the biasing member, in a first valve configuration, permits the flap device to open when pressure within the inlet flap outer conduit reaches a first pressure, and the biasing member, in a second valve configuration, prevents the flap device from opening when pressure within the inlet flap outer conduit reaches a second pressure,

wherein the spool member, in a third valve configuration, directs the flow of a fluid from the valve inlet to the valve outlet when a bias force imposed by the biasing member is sufficient to prevent the flap device from opening after pressure within the inlet flap outer conduit has reached an operating pressure;

wherein the inlet flap inner conduit is in fluid communication with the valve inlet within the inner bore of the valve body.

52. (new) A discharge rate and pressure control valve comprising:

a valve body having an inner bore generally defined by a bore axis, a valve inlet, and a valve outlet;

a spool member at least partially interposed within the inner bore and moveable therein generally along the bore axis;

a biasing member for biasing the spool member within the inner bore;

a force exerting portion for axially moving the spool member within the inner bore; and

a flap device including a flap inlet defined by an inlet flap outer conduit and an inlet flap inner conduit,

wherein the biasing member, in a first valve configuration, permits the flap device to open when pressure within the inlet flap outer conduit reaches a first pressure, and the biasing member, in a second valve configuration, prevents the flap device from opening when pressure within the inlet flap outer conduit reaches a second pressure,

wherein the spool member, in a third valve configuration, directs the flow of a fluid from the valve inlet to the valve outlet when a bias force imposed by the biasing member is sufficient to prevent the flap device from opening after pressure within the inlet flap outer conduit has reached an operating pressure;

wherein the inlet flap inner conduit is in fluid communication with the valve inlet within the inner bore of the valve body;

wherein the flap device includes a seat surrounding a flap orifice that defines a boundary between the inlet flap outer conduit and the inlet flap inner conduit, and a ball that selectively contacts the seat to prevent the movement of fluids through the seat;

wherein the flap device further includes a sleeve at least partially interposed between the biasing member and the ball, wherein the sleeve includes a ball contacting portion and a cylindrical housing having a diameter that narrows inwards to fix an end of the biasing member to the sleeve.

53. (new) The valve of claim 15, wherein the flap device includes a part defining the flap inlet and a sleeve having one side adjacent to the part and another side associated with the biasing member, the part being axially adjustable relative to the inner bore such that a biasing force exerted by the biasing member on the sleeve may be adjusted.

54. (new) The valve of claim 25, wherein axial adjustment of the part of the flap device does not affect the volumetric flow of fluid from the valve inlet to the valve outlet.

55. (new) The delivery system of claim 28, wherein the spool member has a peripheral recess communicated between the valve inlet and the valve outlet when the spool member is in the third valve configuration, and a portion of fluid leaks from the valve inlet to the valve outlet when the peripheral recess is spaced apart from the valve inlet or the valve outlet.

56. (new) The delivery system of claim 51, wherein the portion of fluid leaking from the valve inlet to the valve outlet is less than the gasoline discharge rate required for having an engine idle.